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**Alberta
Cancer
Board**

**1987/88
Annual
Report**



91-00975/

*Cover: Eight-year-old Marcus Sawdon
is now a long-term survivor.*

Alberta Cancer Board

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Chairman's Letter



The Hon. Nancy J. Betkowski
Minister of Health
130 Legislature Building
Edmonton, Alberta
T5K 2B6

Dear Minister:

The ensuing pages contain the reflections and activities of some brilliant and compassionate care providers, scientists, staff and volunteers as they act to bring another year to fruition for the Alberta Cancer Board.

The Alberta Cancer Board's mandate is one we eagerly accept. Through the generous and thoughtful support of your government, you have demonstrated your caring regard for cancer patients in the province.

Sincerely yours,

Arthur D. Davis
Chairman
Alberta Cancer Board

President's Report



I am pleased and honored to share some of the highlights and accomplishments of the Alberta Cancer Board for the fiscal period April 1, 1987, to March 31, 1988.

This past year marked the start of a new era in the area of cancer prevention. As a result of the "Steve Fonyo Matching Grant," the Cancer Board launched a major prevention activity, the Steve Fonyo Cancer Prevention Program. This program has in itself been successful, but of even greater significance is the model created in the process. We recognize that our efforts and messages need to reach people where they live. The key lies in partnerships and I believe the tripartite partnership, involving the Alberta Cancer Board, community organizations and the public, will play a major role in the evolution of the cancer prevention program in Alberta.

Along with the prevention program came a growing awareness of the need for effective outreach. The first of several planned associate clinics – the 'Grande Prairie Cancer Centre' – opened in the fall of 1987, in co-operation with the Board of the Queen Elizabeth II Hospital in Grande Prairie. The Alberta Cancer Board places a high priority on improving the accessibility and continuity of care available to rural Albertans and favors integrating services into the community.

Although the Government of Alberta has a long history of funding applied cancer research, a major change in approach took place in April 1987, with the establishment of the Alberta Cancer Board's Research Initiative Program. With the guidance of the Advisory Committee on Research, the focus moved from funding individual researchers to funding theme-oriented, multidisciplinary programs and establishing a Clinical Trials or Institutional Research Unit. The application of this new philosophy has enhanced the creative interaction and efficiency among medical faculties and cancer centres by providing support for shared resources.

During 1987-88 the Board also took important strides toward expanding facilities for cancer care and research in Northern Alberta. On March 31, 1988, the Minister of Hospitals and Medical Care announced approval for the initial stages of a massive renovation and expansion project at the Cross Cancer Institute. This construction will significantly increase in-patient and out-patient services. The Board and its staff are grateful to the Government of Alberta for recognizing this need.

In conclusion, I would add that the tremendous assistance and co-operation received from the Board, staff, two universities, the Alberta Heritage Foundation for Medical Research, the Alberta Division of the Canadian Cancer Society, the Government of Alberta and the public has been a highlight for me this past year and I am sincerely grateful. I encourage you to peruse the following pages and I believe you will agree that this story appropriately reflects the Alberta Cancer Board's commitment to patient care, research, prevention, outreach, and the dedication and excellence of its staff.

Dr. Jean-Michel Turc
President
Alberta Cancer Board

Tom Baker Cancer Centre



The Tom Baker Cancer Centre adjoins Calgary's Foothills Provincial General Hospital. The Foothills provides inpatient facilities, as well as radio diagnostic and laboratory services for the Tom Baker Cancer Centre, while the Centre's cancer programs have a major impact on the Foothills hospital. This means that both the hospital and the Centre enjoy access to more medical resources, and that the Centre is closely integrated into Calgary's medical community.

Over the years, the Tom Baker Cancer Centre has earned a reputation as an institution that provides excellent patient care. Its research programs, carried out in collaboration with the University of Calgary, Faculty of Medicine, are now poised to expand. The University of Calgary and the Alberta Heritage Foundation for Medical Research have offered the Tom Baker Cancer Centre an unoccupied floor in the new Heritage Building. Through the Alberta Cancer Foundation, business and individuals in Southern Alberta will be asked to pledge their support so the space can be developed and research greatly expanded.

Dr. Martin Jerry
Director
Tom Baker Cancer Centre

Cross Cancer Institute



The Cross Cancer Institute, located in Edmonton, provides comprehensive cancer services to the population of northern Alberta (approximately 1.4 million). Delivery of care to this geographically dispersed population is aided by two Associate Cancer Centres — the Central Alberta Cancer Centre, located in Red Deer, and the Grande Prairie Cancer Clinic. The Central Alberta Cancer Centre celebrates its 5th birthday in 1988. The Grande Prairie Cancer Centre opened in November, 1987.

The year 1988 brought formal approval by the Government of Alberta for a major expansion of the Institute. The need for expansion is driven by the increase in the numbers of cancer patients, as the population of Alberta grows and ages. Furthermore, recently developed therapies which are more complex and intense, increase the demands on the Institute's facilities. The expansion will mean an approximate doubling of the Institute's floor space, with increased facilities for outpatient and inpatient care and for cancer research.

As the Cross Cancer Institute completes 20 years of service to the community and looks forward to its future expansion, it is timely for us to reaffirm our dedication to excellence in provision of cancer services to our constituency. We believe that this excellence is achieved and maintained through a balanced, integrated program of cancer care, research and education. We intend to be in the forefront of advances in each of these areas.

Dr. Tony Fields
Director
Cross Cancer Institute

Alberta Cancer Board

Alberta Cancer Board
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Mr. Arthur D. Davis
(Chairman from January 1988)

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(from May 1987)

President

Dr. Jean-Michel Turc

The Alberta Cancer Board is now 20 years old. At one time (from 1940 to 1968) cancer services were a division of the Alberta Department in Health. Then in 1968, the Government of Alberta passed the Cancer Treatment and Prevention Act and established the Board.

Under the Cancer Programs Act (which replaced the Cancer Treatment and Prevention Act), the Board's mandate is to provide comprehensive cancer care, including patient care, teaching and research activities that cure, control and, wherever possible, prevent cancer. The Board must also ensure that Albertans have access to world-class treatment and that the work of the Board improves understanding of the disease.

The Alberta Cancer Board and its facilities are governed by a Board of Directors — 11 private citizens appointed by the Minister of Hospitals and Medical Care (Health). Usually appointed for three-year terms, Board members come from all walks of life and from all areas of the province. They represent the residents of Alberta and report back to the government, through the Minister. The operations of the Board are overseen by a President, appointed by the Board upon the approval of the Minister.

Most Alberta Cancer Board activities are carried out by two main cancer centres, the Cross Cancer Institute in Edmonton and the Tom Baker Cancer Centre in Calgary. These centres are responsible for cancer diagnosis, treatment, research, education and prevention. The Board also directs cancer programs in Lethbridge, Red Deer and Grande Prairie and offers outreach clinics in Peace River and Medicine Hat. Clinic directors are responsible for patient care and for the administration of these treatment centres. They are practising physicians and they report to the President of the Board.

The Board maintains a Cancer Registry, an information bank that provides researchers and planners with valuable statistics. Also important is the Advisory Committee on Research (ACOR), a group of world-recognized scientists who help provide future directions for cancer research in the province. Scientists and medical staff are also working with cancer care specialists throughout the world to keep programs current and innovative.

The Alberta Cancer Board is funded primarily by the Government of Alberta through the Department of Hospitals and Medical Care (Health). Funding is based on government fiscal policies and on Alberta Cancer Board budgets submitted by the Board each year. Additional support for research and education comes from the Alberta Heritage Foundation for Medical Research, the Canadian Cancer Society and the universities of Alberta and Calgary. The Board generates some revenue from the treatment of out-of-province patients and from incidentals, such as parking. In addition, corporations, community groups and individuals offer support through generous donations to the Alberta Cancer Foundation which improve patients' quality of life, support educational and research programs and allow for the purchase of medical equipment. (See the Alberta Cancer Foundation Report page 39.)

Advisory Committee on Research (ACOR)

Advisory Committee on
Research (ACOR)

Chairman

Dr. Michael Baker
Director, Oncology Clinic
Toronto General Hospital

Members

Dr. Allen Eaves
Director, Terry Fox Lab
Cancer Control Agency of B.C.
Vancouver

Dr. Arnie Greenberg
Manitoba Institute of Cell
Biology
Winnipeg

Dr. Theodore Phillips
Chairman, Department of
Radiation Oncology
University of California,
San Francisco

Dr. Joseph Shuster
Director, Clinical Immunology
Montreal General Hospital

Dr. James Till
Ontario Cancer Institute,
Toronto

Dr. Jerome Yates
Associate Director, Clinical
Affairs
Roswell Park Memorial Institute
Buffalo, New York

Scientific Officer

Dr. Hans van de Sande
Department of Medical
Biochemistry
University of Calgary

In 1986 the Alberta Cancer Board established the Advisory Committee on Research (ACOR), a body that advises the Board on research policy and provides an independent review of the Board's research activities.

ACOR consists of seven internationally recognized oncology experts, all working outside Alberta. The University of Calgary, University of Alberta and the Alberta Heritage Foundation for Medical Research (AHFMR) each nominate members. The Alberta Cancer Board makes the appointments and designates a Committee Chairman.

The major thrust of ACOR's work is the review and evaluation of grant proposals. Both the Tom Baker Cancer Centre and the Cross Cancer Institute submit research projects to the Alberta Cancer Board, and ACOR, with its international perspective, advises the Board on research funding.

During the 1987-88 year, ACOR had the opportunity to meet with research scientists from both the Tom Baker Cancer Centre and the Cross Cancer Institute, as grant applications were presented in-person to the committee.

Patient Care



Most children with cancer have an extraordinary ability to cope and can inspire and teach us how to live with the disease. Today many children are winning the battle, giving us hope and courage.

For these reasons — inspiration, hope and courage — the following pages focus on childhood cancer, one aspect of the Alberta Cancer Board's diverse and complex mandate.

The harde:



thing is kids bug you that you have no hair.

Ricky Krahn, an eight-year-old leukemia patient, is being cared for at the Tom Baker Cancer Centre in Calgary.

How did you know you were sick?

Ricky. *While I was sleeping, my mom found a lump right here, on my stomach. We went to see the family doctor and he told us to go to the Children's Hospital right away.*

Had you been feeling well?

Ricky. *Ya, but for about two or three days I couldn't eat. I was hungry but I couldn't eat.*

Do the doctors know why you're sick?

Ricky. *I got T-cell leukemia.*

How often do you go to the Tom Baker?

Ricky. *Right now, tops two times a week.*

How do you feel about going?

Ricky. *Some parts are good and some aren't.*

What's good?

Ricky. *That you get to meet other kids.*

What's not so good?

Ricky. *When they make you take stuff you don't like.*

Do other people know how you feel?

Ricky. *Some people do. My friends do. My friend, Peter, does.*

What is the hardest thing about being sick?

Ricky. *Kids bug you that you have no hair.*

Is there something you would like to tell those kids who bug you?

Ricky. *Ya.*

What would you tell them?

Ricky. *I don't know.*

Are you sure?

Ricky. *I'd tell them it's better to be healthy than to have hair.*

Fifteen years ago, in 1973, comprehensive pediatric oncology programs were established in Alberta. Prior to that time, children in Alberta with cancer were cared for by pediatricians and adult hematologists. The Northern Alberta Pediatric Oncology Program, based in Edmonton at the Cross Cancer Institute, became the cancer centre for northern Alberta. The program serves a large area from Red Deer north, with patients arriving from northern British Columbia, the Yukon and the Northwest Territories. In southern Alberta, the Pediatric Oncology Program at the Tom Baker Cancer Centre serves the southern region, from as far north as Red Deer, as far east and west as the Saskatchewan and British Columbia borders. The centre also receives out-of-province referrals from Saskatchewan and British Columbia.

Both programs operate in co-operation with neighboring hospitals. In the north, outpatient services are provided by the Cross Cancer Institute, while children who need hospital care stay at the University of Alberta Hospital. Similarly, out-patient clinics are held at the Tom Baker Cancer Centre, inpatient services at the Alberta Children's Hospital in Calgary.

Staff with the Northern and Southern Pediatric Oncology programs belong to the U.S.-based Pediatric Oncology Group (POG). Through the group, Alberta can share knowledge with world cancer centres and participate in large pediatric studies, now leading to new methods of treatment for children with brain tumors, the second most common childhood cancer. Traditionally, these tumors are treated with radiation, but recent studies have shown that many childhood tumors respond well to chemotherapy, and, since 1987, a number of children at the Tom Baker have begun receiving chemotherapy. The hope is that the treatment will be more easily tolerated and that these children will become long-term survivors.

Advances are also being made in the treatment of Wilm's Tumor, a kidney tumor that usually appears in children under the age of five. If detected in its early stages, Wilm's Tumor now has a 100 per cent survival rate. Even if detected at an advanced stage, the survival rate is more than 50 per cent.



Because childhood cancers differ from adult cancers, the treatment protocols also differ. "Children going through therapy experience very difficult times," says Dr. Ronald Grant, head of the Pediatric Oncology Program at the Tom Baker Cancer Centre, "but they are very, very strong. It is amazing to watch them. They get just as sick as the adults, but handle it a lot better."

***He draws some strength from me but at the same time
I draw as much from him. Right from the beginning
he was the rock of Gibraltar.***

In August, 1987, Shirley Krahn learned her son, Ricky, had leukemia.

"As time passes, it doesn't get any easier to accept, but it is easier to deal with. When it first hits you, you go into shock. You're numb. You know it is happening, but you don't accept it. For about the first two weeks I functioned, but that was it.

"Now there is a routine. It's silly to say, but I actually enjoy going to the clinic because you meet other parents. It's like having a whole bunch of good friends. The hardest thing is thinking you're alone, so it is easier when you find out you're not. Lots of parents are going through exactly the same thing. You can identify with them. I can talk to family and friends — and I do — but it is not the same. They don't have a child with cancer.

"A lot of our friends treated us differently. In the beginning, they all phoned, 'How's Ricky? How are you?' Then the phone calls stopped. I got really mad and phoned all my friends, especially friends I had been there for when they needed it. I phoned one girlfriend and said, 'I'd just like to make it clear that my son has leukemia, not leprosy.' She apologized. She just didn't know what to say or how to deal with me.



"Ricky was never a sick child. He would play hockey all winter and not get one cold. He has gone from having the resistance of a brick wall to hardly being able to fight anything. Otherwise, he hasn't changed one bit, except for the things I tell him he can't do. Sometimes he wants to play hockey, but he doesn't have enough platelets. When he starts rough housing with his brother, Ryan, I'll let him go if he has enough platelets. You can't take everything away from him. I used to be very overprotective, but I am getting better. I am learning to relax.

"A lot of people ask me how I do so well, because I am still very talkative, very bubbly. But it is easy when he does well. Right from the beginning, when he was in intensive care and really, really sick, he was the rock of Gibraltar. The strength comes from him, not me. I have to be strong, because as an adult, if you can't be strong, how can you expect a child to be. But at the same time, his strength makes it easy for me. He draws strength from me, but at the same time, I draw as much from him."



Throughout the treatment period, parents and children work closely with social worker Wendy Hagen. She helps families make the adjustment to the initial diagnosis and guides them through the complications and uncertainties of the next few years.

"We encourage the parents not to hide anything," says Wendy, "because we find children deal with it better when you are open. Children, who are coming in for difficult procedures, can prepare themselves, if they know ahead of time what to expect."

At the Tom Baker Cancer Centre, relaxation exercises and films help prepare children for difficult procedures, such as bonemarrow aspirations and lumbar punctures (spinal taps). Dolls and puppets are used to explain the nature of the cancer, the treatment and the relaxation exercises.

"You can use a lot of playthings to help them understand," says Wendy. "Like some of the kids, this doll may have a lump in its tummy that we have to make go away."

They don't go around feeling sorry for themselves and thinking how unfortunate they are. And they don't want you feeling that either.

Today, the majority of children diagnosed with cancer will survive the disease. This was not true 10 years ago, when less was known about the different leukemias. "By the year 2000, we will have regular survivors of childhood cancer," says Nancy Marshall, head nurse with the Tom Baker Cancer Centre's Pediatric Oncology Program. She explains that care must now be taken to keep the children's lives as normal as possible, preventing long-term psychological scars.

"We now treat children with leukemia for about three years," she says. "After treatment, children are still watched very closely, so the treatment will actually affect about seven years of their formative, early childhood.

"In the past, when the perspective was that the children might not live, they were often kept out of school for a long period of time. They would lose a portion of their education and their interest in school. There would be no discipline and they would not keep up with their peers. In a sense, the treatment would leave them emotionally handicapped.

"Today, we try to keep them in school and in their family settings as much as possible. Sometimes it may mean half a day at school rather than a whole day. But we try to look at what a normal family needs and, as much as possible, retain that normalcy and meet their emotional as well as physical needs."

With children participating in the school and community, the Tom Baker Cancer Centre must work to educate teachers, classmates and neighbors. "There are still stigmas associated with



cancer," says Nancy. "Should my child still play with your child? Is cancer contagious? It is unbelievable the kinds of things parents share with us, in terms of the need for education.

"In the school, we work with the teacher, so he or she can inform the class. The teacher may explain that Susan will be wearing a cap in school because her hair has fallen out. It is part of the treatment and it will be growing back. If you do that kind of work, classmates can become advocates for the children, standing up and protecting them in the hallways."

Another change that has taken place during the last 10 years is how physicians and nurses work with the children. Nancy explains, "Twenty years ago, people felt that children need to be protected as much as possible from both psychological and physical pain. You kept the children in the dark about their cancer. You never said the word 'cancer' to them. You whispered it when you were away from them. But the literature has

shown that children's fantasies are a lot worse than reality and you do them harm by being secretive.

"We are now open and honest and use the correct words. Depending on their age, children are told the name of their disease. With a two-year-old, you may converse with the family, with the child on the mother's knee. But with a four-year-old, you can talk about blood, about the lump in your stomach that we will be taking out.

"Children have the ability to work very positively with this experience. They don't go around feeling sorry for themselves and thinking how unfortunate they are. And they don't want you feeling that either. What they want from you is strength. They want you to show them the way to get back home and back to school. They want you to be a resource, a person who helps them live their lives as normally as possible."

It doesn't



affect the way you play or speak.

Eight-year-old Marcus Sawdon was diagnosed with B-cell lymphoma when he was three years old. He is now a long-term survivor.

Marcus. *I remember Mom finding this lump on my neck.*

What do you remember about it?

Marcus. *It is hard to explain. I remember the children's hospital we went to.*

Were you scared?

Marcus. *A little.*

Was there anything about having cancer that was really hard?

Marcus. *No.*

You would want to go through it again?

Marcus. *No.*

Why not?

Marcus. *There's a needle I don't like, and you get sick.*

What was the hardest part?

Marcus. *When I had to lie down and get the needle in my arm.*

Do you have any good, special memories about it?

Marcus. *One thing, having my picture taken with a hockey player. And we met some pretty neat people at the Cross.*

Were you happy most of the time, even if you had cancer?

Marcus. *I really didn't think much about it. It didn't make much difference. The kind of cancer I had doesn't affect the way you play or speak.*

Are there some things that would be worse than having cancer?

Marcus. *Yes.*

What?

Marcus. *Like whooping cough.*



Oncologists have long been able to recognize the different forms of childhood cancer, but only recently have they been able to improve survival rates by adapting treatment plans to specific cancers. During the last five years, with tailor-made treatment plans, the survival rates for T-cell leukemia have increased from 30 per cent to more than 50 per cent, while the survival rates for malignant lymphoma (non-Hodgkin's lymphoma) have increased from five to 95 per cent.

On the other hand, children with neuroblastoma, a tumor of the sympathetic nervous system and adrenal glands, are still showing poor survival rates. However, if diagnosed during its very early stages when the child is less than one year old, there is a 60 to 90 per cent survival rate, and hope may lie with an early infant screening program, similar to one program

in Japan, which screens infants at six months.

In some cases, children with advanced neuroblastoma are benefitting from bonemarrow transplants. This involves using drugs and radiation to kill the growing tumor, then replenishing the bone marrow. This treatment is now being used in special cases at the Cross Cancer Institute and will be introduced to the Tom Baker. In 1988, Dr. John Akabutu, head of the Northern Alberta Pediatric Oncology Program, performed the first pediatric bonemarrow transplant in Alberta and is now applying to the Pediatric Oncology Group for designation as a Pediatric Oncology Group Transplantation Centre.

What we do here is identify the family's coping skills...



Judy McTavish is a nurse and counsellor with the Pediatrics Department at the Cross Cancer Institute. Her role is to reach out to families experiencing the crisis of having a child with cancer.

"Parents need to be encouraged to be parents. They need to come out the other end, whether or not the child survives, and say, 'I did everything I could do.'

"Newly diagnosed families have a tremendous need to learn about the disease. What is the treatment going to be like? What the prognosis is and what are the side effects of the therapy. The nurses here do that teaching. Then I go

into the homes, to the Ronald McDonald House (an overnight residence for parents), the hospital or their hotel. My major thrust initially is to see that these families get settled in. Do they need financial assistance or someone to babysit children left behind? I also re-inforce what they have been taught by the nursing staff.

"New families are introduced to families that have already been there. The child may not have the same disease. You can't compare diseases. You can't compare drugs, particularly. But what you can compare is nutrition and discipline, whether or not you let your child play hockey and how sick you felt sometimes about what was going on.

"After the initial period of diagnosis, I see the families during the outpatient clinics, or when the kids are in hospital, I visit the families once a week. Some families are fine. But the next family may say, 'I am having trouble. My husband never comes to the clinic and I am stuck with this all the time.' I can then come forward, perhaps with some suggestions.

"What we do here is identify the family's coping skills. I can look at lots of families that will do things or react to things or make decisions in different ways than I would, but I think it is very insensitive and insensible to expect that they would do it my way, so we try to find out what has worked for them in the past.

"If the child relapses, then it becomes a matter of talking to families about the pros and cons of palliative home care. What will be the effect on the siblings if they keep this child home to die? What are the kinds of questions that dying kids ask? And then the parents say, 'how am I going to survive all this?'

"Because we know them so well, it is easy for us to say, 'look where you have been, look at that situation. You did so well with that. There are going to be tough times, but you are going to do well with that too. And we'll be there.'

"At the same time, we try to keep them in touch with their family physician and to get them oriented to community, school, clergy and family — the people who are going to be their support systems at home. It is the same with long-term survivors. They will only come back once a year. So, for the rest of the year, they have got to be connected to the community."

Going through the treatments with Marcus was a privilege — just to recognize his guts and to watch him, the way he handled it.

In 1982, Martin Sawdon moved to Calgary from Britain. Months later his wife, Nesta, and their two children joined him. Shortly after their youngest child, Marcus, was diagnosed with B-cell lymphoma.

"I'll tell you what it is like. I used to play rugby in the U.K. A rugby is shaped like a football and bounces any which way. Once I was running to catch the ball after it had bounced. The sharp end struck me right in the gut. It was that sort of pain, that gut-wrenching stabbing pain. Because cancer doesn't happen to you. And it doesn't happen to children."

Marcus was diagnosed in Calgary and began his treatment at the Tom Baker Cancer Centre. After a year the Sawdons moved to Edmonton. Nesta Sawdon started a new job and Martin stayed home, taking Marcus for weekly treatments at the Cross Cancer Institute.

"While we were still living in Calgary, I was leaving at 7:30 in the morning and coming home at 6:00 at night and then there were often meetings. Moving to Edmonton, I became immediately involved.



"Going through the treatments with Marcus was a privilege — just to recognize his guts and to watch him, the way he handled it.

"The people at the Cross were always very, very special, from the cleaner all the way up. One of the cleaners, whenever he saw him, would say, 'How are you Marcus? You're looking good.' And he would sometimes have chocolates for him.

"There was only one day when Marcus got through the treatments without being sick. We had come home and he was lying on a bean bag chair. The front door must have been open because the neighbor's cat, Hamish, walked right into the house and went up to say 'Hi' to Marcus. Marcus literally got up and was fine. It was amazing."

Without grandparents and other extended family in the country, much of the Sawdons' support came from their church and community. They also found strength in the knowledge that childhood lymphoma is now a very curable disease. "We were lucky because Marcus went through most of treatment before he started school and we didn't have to deal with a lot of school-related problems. Marcus doesn't seem to have lost anything, as far as socialization goes. Among his peers, he appears to be one of the most popular children."



One of the special friends Marcus made during his regular visits to the Cross Cancer Institute was Laith Dabbagh, a researcher responsible for analyzing tissue samples for diagnosis.

"Marcus still comes here for follow-up care," says Laith, "and when he does, he comes to see me before going to the lab. My office is next door to the laboratory and that is how I met him. They were going to take some blood from him and he was scared. So I started kidding him, loosening him up. I'd be scared too. I hate needles. But with children it is worse because they don't understand what you are doing.

"I started bringing him into my lab. I would show him a bad cell. I would tell him, 'That's a no-good cell, a lazy guy. He doesn't do his job and we want to get rid of him.' Then I would show him a good-looking cell and say, 'That's a good guy, we want more of these.' I would make it very simple."

The playroom is a place where children can come and have fun. It takes away the fear and terror.



The sounds coming from the playroom aren't sounds one normally associates with sick children. Inside, one child is building with play dough. Another is pushing a baby carriage, while her mother's job is to push the IV stand. In another part of the room, two boys, both in red company caps, are comparing hockey cards.

At the cancer centres, playrooms act as waiting rooms. Here there are toys, books, friends and comfortable chairs so parents can relax and visit. At both the Tom Baker Cancer Centre and the Cross Cancer Institute, the playrooms are run by volunteers.

"Before we had an actual playroom, we used an area out in the hall," says Trudy Cormier, a volunteer at the Cross Cancer Institute. "The children would come in and they would be so tense. Now, even if they are really young children, after a couple of weeks, they'll come running down to the playroom. You hate to see what they are coming here for, but if you can make some of their day a little better, then you have accomplished something."

"The playroom is a place where children can come and have fun. It takes away the fear and terror. It is a happy place and a good place for them to come."

Trudy says that in the playroom important friendships are made between both parents and children. "When they see someone else going through what they are going through, they say to themselves, I'm not the only one going through this. You're getting all the pokes I am getting. All the things that are happening to me are happening to you."

They mā



start to look at what their priorities are, at what is important and what isn't.

Treating cancer means treating people. And at the cancer centres throughout the province, psycho-social programs help patients and their families deal with the disease, the treatment and with death and dying.

Dr. Susan Enzle is Senior Psychologist at the Cross Cancer Institute.

"When people are diagnosed with cancer, when they have a recurrence, or if a patient dies, people can have a variety of psychological reactions from denial through to anger, depression and anxiety. Likewise, families can have the same sort of emotional reactions and may need help coming to terms with those emotions.

"Family members may ask us how they should tell their children, their mother or their father that someone is dying. There are also changes in family roles that take place. When one spouse dies, the surviving spouse usually has to fill most of the roles. With families with dependent children, for example, the surviving spouse may have to do all the parenting and all the inside and outside housework.

"People can also seek help dealing with troubling symptoms, such as insomnia or pain or nausea. A variety of therapies, such as relaxation therapy, can help people cope with these symptoms. Patients also come to us because they have fears or phobias associated with procedures, such as IVs or CAT scans.

"Cancer patients are like the general population. A certain percentage have depressive disorders, marital problems and so forth. A lot of people we see are newly diagnosed patients, and the diagnosis or recurrence may be the motivation they need to make lifestyle changes. They may start to look at what their priorities are, at what is important and what isn't. Likewise, when people are facing death, there may be a strong motivation on the part of all family members to resolve emotional difficulties and conflicts."



Dr. Nancy Digdon, a resident in psychosocial oncology, has served as a liaison person between Counselling and Psychological Services in Edmonton and the pediatric department at the Cross Cancer Institute. Her position is made possible by the Canadian Cancer Society, Alberta-NWT Division.

"Even young children have considerable resources to help them through the cancer experience. One child told me he wasn't afraid of needles any more because every time he gets a needle, he pretends he is the Hulk, and the Hulk is not afraid.

"I was continually impressed by most children's ability to cope and to make the best of difficult situations. Oftentimes, children can be taught to use imagery and fantasy, even if they don't think to use it spontaneously."

You experience the same emotions — denial, anger, depression — the day you hear the diagnosis and every time there is a set-back or relapse.

Elaine's* eldest daughter, April, was in Grade 2 when she was first diagnosed with Hodgkin's disease. She didn't allow it to become a major set-back. She missed the last two months of school, but in the fall started Grade 3, along with the rest of her classmates. In 1984, the disease recurred, but again she fought back.

Elaine recalls: "What type of person was April? Get the treatments over with so you can get going. She was athletic and played baseball. She was very studious. She was a perfectionist."

In 1986 she was diagnosed for the third time. "She had missed Grade 12 because of all the treatments she had taken the year before," recalls Elaine, "and she was determined to get her Grade 12 — very, very determined. So she enrolled at college but was only there for three weeks. She was so sick. She died in December 1987."

For Elaine, the experience was doubly difficult. Her husband, John, had just passed away from cancer when April was diagnosed a third and final time. Says Elaine, "You're at one stage with one and at another stage with the other. I had just got into my grieving with John when April took very ill. I had to push my grief behind me and deal with April."

"How did I deal with it? I don't know. I got a lot of support from family and friends, plus a lot of community support. And April and I supported each other. I thought, if I crack, April won't be able to make it either."

"I have two other girls, and it was hard for them, because I had been away an awful lot with John when he was ill. He died and we were just getting our lives back together again, when April got sick. The three of us went to see the counsellor at the Cross a couple of times. You get wrapped up in your own life, and you're so busy, you don't have time to express what's inside you. It is not that we didn't take the time to talk, it's that we don't have the time to talk. You get so busy with the treatments and trying to carry on a normal life, that you don't talk directly about how this is affecting your life and the changes it is causing. I don't think you sit down and say, 'How are you coping with this today?' It was for that reason that I went to see the counsellor."

"What do I find the most difficult? I find quite a few things difficult. I don't like weekends and I don't like being alone. I don't know if I have started to heal yet, but everyone tells me in time it will get better. You can't keep saying, 'why me?' You have to get on with your life, and I don't think you are ever going to get an answer to why this has happened to you and your family."

"When it does happen, you're in shock. You know one day death could happen, but you don't know what day, and then one day it happens. In both instances, it took me two or three months to say, 'This has happened.'"

"But grief isn't something you only experience after a death. You experience the same emotions — denial, anger, depression — the day you hear the diagnosis and every time there is a set-back or relapse."

*The names in this story have been changed to protect the privacy of the individuals.

Education and Research

Today, even complex treatments, such as bone marrow aspirations, lumbar punctures and transfusional therapy, are provided in the day clinic. Children spend less time in hospital, away from family. Instead, they make regular visits to the cancer centre, then return home.

These advances in cancer care have changed the role of the nurse and placed new emphasis on teaching — teaching patients and families to help care for themselves and providing continuous oncology training for medical staff.

At college and university, nurses learn how to teach patients and families how to help care for themselves. At the cancer centres, student nurses learn first-hand about the world of oncology nursing. Registered nurses, along with other medical staff, also participate in continuing education programs, learning of advances and developments through conferences, workshops and lectures.



Day care nurse Karen McMillan with an infusion pump.

Staff at the centres also participate in public education programs, designed to satisfy the public need for information about cancer. In 1987, the Cross Cancer Institute's Counselling and Psychosocial Services group held a series of public education lectures, entitled "Living with Cancer." Funded by the Alberta Cancer Foundation, the 10-lecture series tackled such subjects as detection, prevention, treatment, research and psychosocial issues, including managing the stress of cancer.

Can we prevent cancer?

Approximately 7,000 Red Deer residents have received a "message letter" as part of the Steve Fonyo Cancer Prevention Program, a program that teaches Albertans how they can reduce their cancer risk and encourages them to practise prevention. Co-ordinator Judy Birdsell explains that it is Canada's first, and, until recently, Canada's only community-based prevention program.

Established and run by the Alberta Cancer Board, the program is supported by the Province, as part of its commitment to the Steve Fonyo run. After two years, the efforts are already paying dividends. The Alberta Cancer Board plans and delivers the programs in co-operation with the Boards of Health in the four cities involved: Red Deer, Medicine Hat, Grande Prairie and Lethbridge.

Activities are geared towards communicating with individuals or educating the general public, using local community resources. Risk assessment questionnaires are delivered door to door. (In Red Deer, 17,000 households received risk assessment questionnaires, 75 per cent were returned.) Individuals then receive personalized letters with recommendations based on their lifestyle. If desired — and 75 per cent do request it — a risk assessment is sent to the family physician. The local nurse co-ordinator also calls anyone identified as exceptionally high risk.

Back-up resources include a cancer hotline in Red Deer for personal counselling, self-help kits on subjects such as diet, smoking and weight control, early detection, and group classes for smoking cessation and weight control.

Of all the activities, the letters seem to be having the greatest impact. A telephone survey of Grande Prairie residents showed that one year later, the majority not only remembered receiving the letter, but some had kept it for reference and most (87 per cent) said they had tried to make changes.

The strong community programs in Medicine Hat and Lethbridge are a result of the creative efforts of volunteer committees and part-time staff. "If there is one thing that has impressed me, it's that local people do know what will work in their community far better than outsiders," says Judy.

The Lethbridge Eater's Digest project worked exceptionally well. Working with local restaurants, the committee distributed entertaining information on how fibre and fat intake affect cancer risk. Some restaurateurs chatted up the patrons and encouraged them to enter the free meal draw. The Lethbridge group also founded the largest Alberta Interagency Council for Smoking and Health. They are now running a smoking cessation challenge in high schools. Last year, the committee successfully piloted a high school curriculum kit on cancer prevention.

The Medicine Hat group has used community networks, such as the local media, churches, physicians, conferences and the



Judy Birdsell

Medicine Hat Stampede, to share cancer prevention information.

Judy explains the task is to create a supportive environment for prevention. "In the environment where we work and live, it is easier to make some choices than others. So part of the goal is to facilitate cancer prevention in the community, be it a cultural attitude or the availability of something like low-fat yogurt. Our smoking bylaws have taken us a long way in establishing that non-smoking rather than smoking is the cultural norm. Ten years ago that wasn't the case."

The world-wide consensus is that some kinds of cancer can be prevented, most notably lung cancer, through non-smoking programs and several common cancers through proper diet. "The Alberta Cancer Board has really taken a lead in cancer prevention and moving the focus of programs out of institutions into the community," says Judy.

How can we detect cancer earlier?

With some cancers, early detection can make the difference. Unless detected and treated early, cervical and breast cancers, for example, are almost impossible to cure. Educating the public and improving methods of detection are therefore important components of Alberta Cancer Board programs.

Public education programs, which encourage women to undergo self-examination and bring abnormalities to physicians' attention, are also leading to early detection. Physical examinations, however, can only detect large tumors — tumors that have been present for years and have had a chance to spread. Ideally, tumors should be detected at a much earlier stage, while less than 10 millimetres in size and before spreading to the lymph nodes.

Breast screening

A better answer may be breast screening, through low-dose x-ray examinations, known as mammography. One purpose of the National Breast Screening Study, which concluded on March 31, 1988, was to determine the value of mammography in younger women, aged 40 to 49 years, and to determine at what age annual screening should begin. Across Canada, 90,000 women participated, 9,000 of them Albertans. Screening centres were held in Edmonton, Calgary and in Red Deer's Central Alberta Cancer Centre, the smallest centre in Canada to participate in the study.

A mammogram can detect cancer tumors while still small. Breast abnormalities appear as shadows that may or may not be cancer. Follow-up treatment involves surgically removing

breast tissue for analysis. In North America, experience indicates that only 20 per cent of these "shadows" turn out to be cancer. Since surgery means breast scars, many women are concerned about needless surgery.

Stereostex, a new tool

In 1987, the Cross Cancer Institute acquired a new tool, known as a Stereostex, that should improve follow-up of abnormal mammograms. With small "shadows" less than 10 millimetres in size, the Stereostex allows radiologists to guide the surgeon to the exact location of the abnormal tissue. It then allows for the removal of small amounts of tissue (or cells) for analysis, without leaving large scars.

Improving diagnosis

The recent discovery of HER-2/neu, a cancer gene that can be found in Stage I breast cancer, may further improve survival. Many women who develop Stage I or early breast cancer will never relapse. But with 20 per cent of those who do, the gene HER-2/neu is amplified. This same gene is rarely amplified (less than 5 per cent of the time) in women who remain cancer free. If studies confirm current hypotheses, HER-2/neu may become the flashing red light, warning oncologists to respond aggressively with radiation or chemotherapy, even though the cancer appears to be in its early stages.

The early diagnosis of cervical cancer has improved since the introduction of the PAP smear in the 1940s and '50s. Equally important is evaluation of abnormal Pap smears, made possible by the colposcope, a low-powered



Dr. William Castor

microscope. The colposcope allows physicians to identify cancer or precancerous tissue early, before the cancer has become visible.

Gynecologists at the Tom Baker Cancer Centre now see from 100 to 125 women every week, and a department within the clinic is devoted to follow-up treatment of abnormal PAP smears. In Edmonton, the Cross Cancer Institute provides four half-day clinics per week, at which 80 to 100 women are examined. In addition, a satellite clinic is held at the Royal Alexandra Hospital in Edmonton for two half-days each week. Satellite clinics are also held in Fort McMurray and Grande Prairie, as part of the Grande Prairie Cancer Clinic, established by the Alberta Cancer Board during 1987.

How can statistics work for prevention?

Will the new anti-smoking bylaws in the workplace help reduce the incidence of lung cancer in Alberta?

In the future, the answer may come from the Department of Epidemiology and Preventive Oncology. The statistics will be gathered from the Alberta Cancer Registry, acknowledged to be among the most complete registries in Canada and the world.

Epidemiology is the study of the distribution and causes of disease in different population groups. Critical statistics are used to guide research, patient care and prevention activities.

Data in patient records from physicians reports, cancer clinic and hospital records, pathology reports and death certificates are gathered into a very complete registry. One of the reasons the Alberta registry is superior is that it has a computer linkage with Federal Vital Statistics, so survival rates of patients who move out of province are also tracked. Because the Alberta registry is so respected, the National Cancer Institute uses Alberta survival rates as the standard for all of Canada.

Information from the Alberta Cancer Registry is used to plan patient care facilities and programs and to evaluate treatments. For example, one review of patient records revealed which treatments for kidney cancer were most effective.

Other retrospective studies tell physicians where and when cancer is most likely to spread, so there is a better chance of intervening earlier. The Alberta Cancer Board is conducting a study for colorectal and liver cancer. Other analyses of the records concretely identify whether or not screening programs increase survival with early detection.

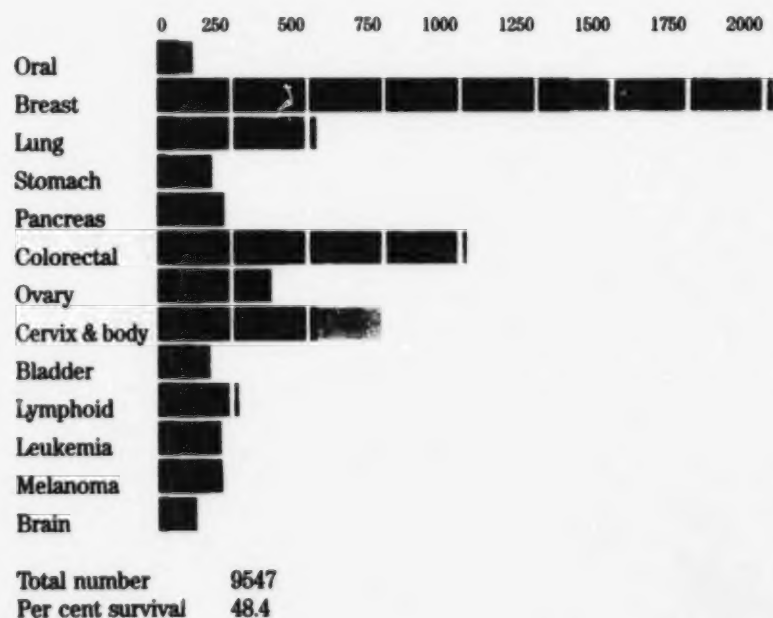
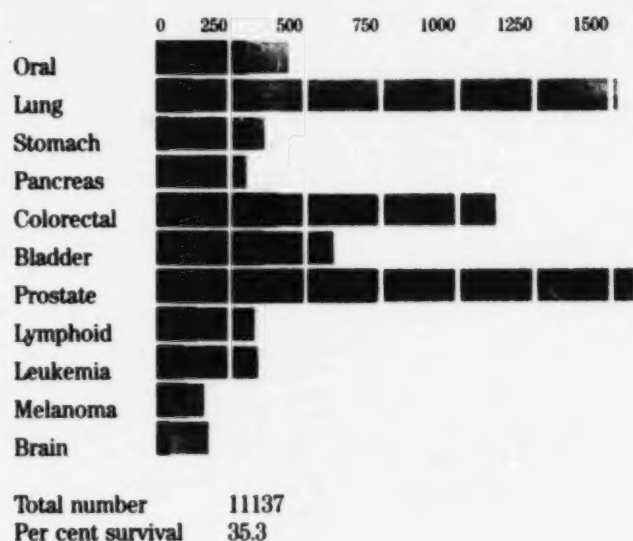
Alberta Cancer Registry data are forwarded to both Statistics Canada and the International Agency for Research on Cancer, which co-ordinates data from 30 registries in the world. According to National Cancer Institute figures, Alberta has a lower than average incidence rate for most cancers and the lowest death rate. National studies include research on how radiation influences thyroid cancer and research on how pesticide use affects the incidence of sarcomas and lymphomas.

Identifying risk factors is one of the key ways epidemiological studies contribute to cancer prevention. The Alberta Cancer Board Department of Epidemiology is conducting studies to answer these questions: Does radiation therapy increase the risk of skin cancer? Do oral contraceptives increase the risk of some cervical cancers? Will beta carotene, a major component of carrots, prevent skin cancer from recurring? Do some occupations increase the risk of cancer in Alberta?

**Per cent Distribution of
Cancers by Site
Alberta 1987**

	Males	Females
Oral	5.2	2.1
Breast	—	26.7
Lung	17.7	8.4
Kidney	3.7	2.6
Stomach	3.6	2.4
Pancreas	2.9	3.0
Colorectal	13.1	13.2
Bladder	6.4	1.9
Ovary	—	4.8
Uterine	—	6.2
Prostate	19.4	—
Leukemias and Lymphomas	10.2	7.9
All others (excluding non-melanoma Skin and in situ)	17.8	20.8

**Five Year Cancer Survival Rates
for Selected Sites by Sex
Patients diagnosed 1980-1982**



 Total number
 Per cent survival

What are Monoclonal Antibodies?



Dr. Grant MacLean

Our bodies produce tens of thousands of different antibodies, each designed to seek out a specific antigens, for example, specific bacteria or viruses. In the late 1970s, Dr. Michael Longenecker and Dr. Grant MacLean began trying to produce "monoclonal" antibodies — antibodies that would react with cancer. Known as MAb, these antibodies may become important for the detection and therapy of many common cancers, and for monitoring the progress of cancer patients.

Dr. MacLean, who works at the Cross Cancer Institute, is an Alberta Heritage Foundation for Medical Research clinical investigator and associate professor of medicine at the University of Alberta. In the early 1980s, Dr. Noujaim, from the University of Alberta, joined the team.

The team has concentrated on identifying and synthesizing antigens that appear as sugars on cancer cells or in the bloodstream. Their "synthetic" antigens are injected into mice. When the immune systems respond, producing antibodies, those antibodies

are harvested and fused to immortal cells. The result is immortal hybrid cells which can be cloned. Each cell produces one type of antibody and is therefore known as a "monoclonal" antibody or MAb.

Two of the early MAbs produced reacted with many common cancers, and in the laboratory, pathologists could use them to identify different cancers. The Edmonton team, however, wanted to know if their MAbs could also target cancers within the body.

Dr. MacLean teamed up with Dr. Sandy McEwan, the new director of Nuclear Medicine at the Cross Cancer Institute. (They had previously worked together in New Zealand.) MAbs were labelled with a radioactive tracer, so their flow through the body could be detected by nuclear medical scanning. Their studies have now shown that these MAbs have potential for detecting several common cancers within the body, including some situations where other scanning devices have failed to detect the presence of cancer.

A direct application of this research is to study whether MAbs can be used as "magic bullets" which would deliver chemotherapy or radiotherapy to cancer tumors within the body. The Cross Cancer Institute expects to begin research into this area in 1989. Parallel studies by the Edmonton group have been identifying different MAbs which can detect sugars deposited in the blood by cancer cells. These MAbs can be used to monitor the progress of cancer patients during and after their therapy.

Can our bodies fight cancer?

"There is a common belief that once you get a cancer tumor, it just grows all over," says Dr. Martin Jerry, director of the Tom Baker Cancer Centre. "That's not true. We have defence mechanisms and we can fight a tumor in much the same way we can fight an infection. We used to think that if you had cancer your immune system was wiped out. But we now know it is not wiped out. It is turned off. The regulation is impaired."

Dr. Jerry and other researchers are studying how the immune system can fight a cancer tumor. They are finding new ways to treat the disease by giving the immune system a boost. To understand the interaction between immune cells and tumors, Dr. Jerry is studying an uncommon and sometimes fatal form of skin cancer. The studies show that in some cases, the body's immune system fights back. In other cases, the tumor grows unchecked.

He explains, "Peculiar things happen with this tumor. It can kill in a few months or undergo spontaneous remission. It can lie dormant for a number of years, then reactivate. It gives us evidence that there is an interaction between that tumor and the patient."



Valter Feyles

Scientists know that the immune response involves a variety of cell types, including killer cells which destroy the tumor cells. These killer cells are activated by natural compounds such as interleukin and interferon produced by other helper cells. Scientists are now developing new treatments based on these natural compounds, known as biologicals. They are isolating the compounds, cloning them in the laboratory and making them available to pharmaceutical companies. Dr. Jerry says there are now more than 100 biologicals available for testing, but the most commonly used are interferons, interleukins and tumor necrosis factor — all proving effective for some patients.

Biologicals offer a fourth choice, along with the three traditional therapies: surgery, radiation and chemotherapy. However, use of biologicals is still largely experimental and not without problems. Treatments are prohibitively expensive for widespread use, and can have severe side effects.

Another Calgary researcher, Dr. Rene LaFreniere, is using animal models to improve the effectiveness of interleukin therapy and reduce side effects. If continued research yields more information about how the body manufactures and uses the biologicals, therapy might lead to another important advance — finding ways to stimulate the immune system so our own bodies can fight back and attack cancerous tumors.

Is cancer inherited?

Why are individuals from some families more likely to develop cancer? Studying a rare hereditary skin disease, Dr. Malcolm Paterson of the Cross Cancer Institute has found that these individuals, who develop skin cancer at an alarming rate after routine exposure to sunlight, lack enzymes necessary to repair genetic damage caused by the sun's ultraviolet rays. This finding demonstrates that environmental and genetics factors can combine to cause cancer.



Dr. Malcolm Paterson

While these studies may well lead to new methods of early diagnosis, improved treatment and effective prevention, the main goal is to understand how cancer occurs at the most basic level. "If we can clarify the basic mechanism underlying cancer proneness in these families," notes Dr. Paterson, "we may obtain valuable clues as to how cancer develops generally."

Dr. Paterson's laboratory, supported by a \$2 million grant from the Alberta Heritage Foundation for Medical Research, is also studying other cancer-associated genes, such as proto-oncogenes and anti-oncogenes. Proto-oncogenes are responsible for directing organ formation. "At birth their expression is either turned off or finely controlled," says Dr. Paterson. "Due to the wear and tear of everyday living, such as routine exposure to cancer-causing chemicals, x-rays or viruses, these genes can be permanently turned on again, taking us one step down the road towards cancer."

Anti-oncogenes, or cancer-suppressor genes, are believed to act by preventing cancer from developing. Simply put, cancer appears to occur not only because oncogenes are too active, but also because anti-oncogenes are totally in-active. Dr. Paterson's recent studies suggest that cancer-prone families may harbor faulty anti-oncogenes.

"If we can determine what proteins these anti-oncogenes normally produce to prevent cancer from developing and how they do so, it will have important ramifications in the clinic, such as facilitating improvements in therapeutic protocols," says Dr. Paterson.

Researchers are also looking for answers to the question, Why does cancer spread? More than 80 per cent of cancer deaths are caused when cancer cells spread from the original tumor. The spreading process, known as metastasis, is poorly understood,



Dr. Eva Turley

but Dr. Eva Turley, a University of Calgary researcher, has some clues about how it may occur. She is isolating those proteins and sugars that stimulate the spreading of cancer cells. "Theoretically, we could prevent metastasis," she says, "by manufacturing antibodies, or inhibitors, that would block the activity of those proteins and sugars."

Dr. Turley has successfully isolated a protein present in elevated amounts in tumor cells. The protein is controlled by cancer genes, and she has shown that it stimulates the spread of cancer. She is now working to develop an antibody that will neutralize the protein and reduce metastasis.

Facts and Financials

Facts about the Alberta Cancer Board 1987/88

Number of new cancer patients in Alberta in 1986
9,993

Alberta Cancer Board Operating budget
\$42,523,707

Sources of operational funding
Alberta Hospitals and Medical Care
Canadian Cancer Society
Discretionary revenue

Staff (all clinics)

Medical staff	45 (full-time)	2 (part-time)
Nursing staff	87 (full-time)	122 (part-time)
Scientific staff	35 (full-time)	
Technical staff	135 (full-time)	34 (part-time)
Professional and support staff	362 (full-time)	130 (part-time)

Students
35 (Cross Cancer Institute and Tom Baker Cancer Centre)

Physicians with active or consulting privileges
270 (Cross Cancer Institute)
157 (Tom Baker Cancer Centre/Foothills Hospital)

Volunteers
450 (Cross Cancer Institute)
175 (Tom Baker Cancer Centre)

Specialty care areas
Gynecological Oncology
Medical Oncology
Nuclear Medicine
Oncological Pathology
Pediatric Oncology
Radiation Oncology
Radiology
Surgical Oncology
Psychosocial Oncology
Pain and Symptom Control

Inpatient beds
76 (Cross Cancer Institute)
45 (Tom Baker Cancer Centre/Foothills Hospital)

Outpatient visits
73,633 (Cross Cancer Institute and affiliated clinics)
69,216 (Tom Baker Cancer Centre and affiliated clinics)
5,649 (Lethbridge Cancer Clinic)

Research projects
98 (administered by the Alberta Cancer Board)
175 (ongoing projects requiring monitoring and annual ethics approval by the Alberta Cancer Board)

Researchers involved in projects affiliated with the Alberta Cancer Board
191

Research budget
\$6,079,507

Sources of research funding
Alberta Heritage Foundation for Medical Research
Medical Research Council
National Cancer Institute of Canada
Industry
University of Alberta
University of Calgary
Alberta Cancer Board
Alberta Cancer Foundation

Alberta Cancer Board
Statement of Revenue, Expenditure and Surplus
for the Year Ended March 31, 1988

	Operating	Discretionary	Capital
Revenue:			
Grants	\$41,751,136	\$ —	\$2,987,893
Patient charges	1,241,045	43,120	—
Interest	—	683,242	—
Donations and proceeds on disposition of research assets	—	—	704,098
Other	334,734	—	—
Ancillary operations:			
Edmonton Radiopharmaceutical Centre	—	746,537	—
Parking	—	149,536	—
	43,326,915	1,622,435	3,691,991
Expenditure:			
General	42,525,658	85,721	—
Research	—	—	—
Fixed assets	—	84,973	2,794,221
Construction in progress	—	—	897,770
Ancillary operations:			
Edmonton Radiopharmaceutical Centre	—	659,314	—
Parking	—	52,865	—
	42,525,658	882,873	3,691,991
Excess (deficiency) of revenue over expenditure for the year	801,257	739,562	—
Surplus at beginning of year	604,276	2,716,544	—
Transfer of contributed surplus	451,000	—	—
Surplus at end of year	\$ 1,856,533	\$3,456,106	\$ —

This information has been extracted from the audited financial statements of the Alberta Cancer Board.

A copy of the complete audited financial statements is available from the Alberta Cancer Board.

Alberta heritage research projects	Endowment and Trust	Total 1987/88	Total 1986/87
2,046,814	\$ —	\$46,785,843	\$48,750,083
—	—	1,284,165	793,267
16,578	19,545	719,365	500,163
—	1,145	705,243	576,399
—	—	334,734	519,070
—	—	746,537	762,521
—	—	149,536	150,722
2,063,392	20,690	50,725,423	52,052,225
—	—	42,611,379	43,011,894
2,014,665	44,661	2,059,326	4,546,826
48,727	—	2,927,921	2,547,501
—	—	897,770	—
—	—	659,314	666,338
—	—	52,865	47,445
2,063,392	44,661	49,208,575	50,820,004
—	(23,971)	1,516,848	1,232,221
—	328,670	3,649,490	2,417,269
—	—	451,000	—
—	\$304,699	\$ 5,617,338	\$ 3,649,490

Alberta Cancer Board
Balance Sheet as at March 31, 1988

<i>Assets</i>	1987/88	1986/87
Current assets:		
Cash	\$ —	\$ 16,852
Short-term deposits	7,183,555	6,532,000
Accounts receivable:		
Department of Hospitals and Medical Care	1,829,423	2,003,925
Other	965,895	832,646
Inventory, at cost	1,323,233	1,185,173
Prepaid expenses	171,716	152,558
	11,473,822	10,723,154
Funds held in trust by Alberta Cancer Foundation	3,549,031	3,549,031
Fixed assets, at cost:		
Furniture and equipment	17,079,299	14,812,670
Research	5,423,158	5,953,306
Leasehold improvements	3,199,028	3,145,069
Construction in progress	897,770	—
	26,599,255	23,911,045
	\$41,622,108	\$38,183,230

Liabilities and Equity

Current liabilities:		
Bank overdraft	\$ 84,489	\$ —
Accounts payable	4,081,333	4,564,797
Research projects grants payable	1,449,767	1,524,243
Due to Department of Hospitals and Medical Care	240,895	534,624
	5,856,484	6,623,664
Equity:		
Equity in fixed assets	26,599,255	23,910,045
Funds entrusted to Alberta Cancer Foundation	3,549,031	3,549,031
Surplus	5,617,338	3,649,490
Contributed surplus	—	451,000
	35,765,624	31,559,566
	\$41,622,108	\$38,183,230

This information has been extracted from the audited financial statements of the Alberta Cancer Board.

A copy of the complete audited financial statements is available from the Alberta Cancer Board.



"I joined the Golden Gate
Lions Club specifically because
of its history of supporting the
Alberta Cancer Foundation."
Martin Sawdon

Chairman's Report



The Alberta Cancer Foundation completed its third year of operation in 1987-88. As in the previous two years, Albertans have continued to enthusiastically support cancer research and contribute to the well-being of patients in Alberta Cancer Board treatment centres throughout the province. The majority of the funds donated during the year came from people who were grateful for the care they or a loved one received in the Board's clinics (or who wished to honor the memory of those who succumbed to cancer.)

Cancer touches the lives of just about everyone, and Albertans are anxious to join in the effort that is being made in the lab and at the bedside. The Alberta Cancer Foundation provides an effective means for them to do so, and offers the assurance that every dollar donated to the Foundation is used right here in Alberta.

During the year, the Foundation supported a number of projects and activities relating to research, education and patient comfort, and purchased a number of pieces of equipment that would not have been available through government and other funding sources. One activity that I'm especially proud to have been connected with was the 10-week "Living with Cancer" lecture series which the Foundation sponsored at the Cross Cancer Institute. The lectures attracted standing-room-only crowds week after week and pointed to the tremendous need cancer patients and their families and even members of the general public have for information about cancer. This is the very sort of project the Foundation wants to get involved in, made possible by the generosity of donors. You can read about others in this report.

Toward the end of the year, the Foundation was preparing to launch its first major capital campaign. "Project Alpha" has the objective of raising \$4 million for a floor dedicated entirely to cancer research in the new Alberta Heritage Foundation for Medical Research Building on the University of Calgary campus. Targetted at the corporate and rural communities in southern Alberta, campaign organizers had every indication it would be a successful campaign. Immeasurable benefits will accrue to Albertans through the research facility's ability to attract top-notch researchers from around the world.

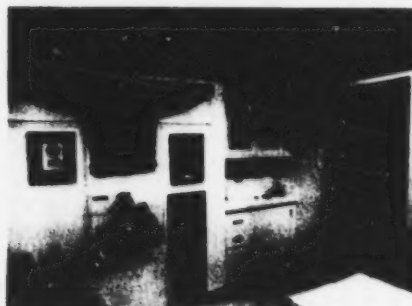
I'm sure I speak on behalf of all the trustees of the Foundation when I say how very rewarding our work is and how grateful we all are for the generous support we have been given. Our thanks are also extended to the staff of the cancer centres throughout Alberta. Their help is greatly appreciated.

T. E. (Ed) Poppitt
Chairman
Alberta Cancer Foundation

It was a dream of mine...



Dr. Malcolm McPhee



Glenn Anderson Room

At the Cross Cancer Institute, Dr. Malcolm McPhee and a team of scientists are researching how laser surgery can be used to treat cancer, thanks to the Anderson-Acklands-Gasland Fund. During the 1986-87 NHL hockey season, the Alberta division of Acklands Limited, a national automotive and industrial supply company, and Gasland Oil Ltd made a contribution to the Alberta Cancer Foundation based on Edmonton Oilers superstar Glenn Anderson's scoring performance. The Anderson-Acklands-Gasland Fund has sponsored a number of projects at the Cross Cancer Institute, including renovations to the outpatient coffee shop and a specially decorated "Glenn Anderson Room" for pediatric outpatients. For the past two years, more than \$80,000 has been committed to laser research.

LASER is an acronym for Light Amplification by the Stimulated Emission of Radiation. A form of surgery that uses light beams to destroy cells, it has applications for bladder, kidney and prostate cancer. It can be used for palliative care of elderly patients unable to tolerate traditional surgery.

"The Acklands and Gasland people have enabled us to continue in the palliative treatment of elderly patients unable to tolerate open surgical techniques," says Dr. Malcolm McPhee, head of surgery for the

Cross Cancer Institute. "Patients with cancer of the lung may come in with a bronchus obstructed. They may be in terrible distress from not getting enough oxygen. The laser can go down through the fibre and blow a hole through the tumor. It doesn't cure them, but it makes them feel a lot better. They often get immediate relief."

Dr. McPhee cites another example where the laser was used to lessen the pain of breast cancer: "It can be used for recurrent breast cancer, where very, very painful masses of cancer lie under the skin. The cancer cannot be removed surgically. You would need a skin graft. But the laser can get rid of painful cancer lesions."

Dr. McPhee became interested in lasers back in 1970. "It was a dream of mine," he says, "but the problem was lasers were big, cumbersome, very expensive and not practical to think about." In 1979 he began collaborating with Dr. John Tulip, an electrical and laser engineer at the University of Alberta. In 1980, with help from private donors and the South Edmonton Lion's Club, they established a laser laboratory at the university. Additional funding came from the Alberta Cancer Board and the Alberta Heritage Trust Fund.

"In 1981," recalls Dr. McPhee, "we were ready to treat our first patient for cancer of the bladder. It was the first time this had ever been done in North America. Today, she is alive and well and very happy, and this is no longer a research project. It is an accepted method of treatment."

A second laboratory, now the Anderson-Acklands laboratory, was established shortly afterwards, to look at other laser applications. Through the assistance of the Anderson-Acklands-Gasland Fund, Dr. McPhee and his team are examining the dangers and benefits of various forms of laser surgery, while also refining the technology. Doug Cummings, group vice-president for the Alberta Division of Acklands, says, "Acklands, like all Canadians, is very concerned about cancer, its treatment and prevention. We wanted to do our part, and when we saw a major project, like the laser laboratory, we thought it was excellent and wanted to get involved."

A current research project involves injecting laboratory animals with a drug that absorbs light travelling at a specific wavelength. Cancerous tumors absorb the drug more efficiently than normal tissue does. The drug absorbs the laser light beam, and a chemical reaction, which kills cancer cells, occurs. Dr. McPhee's team is looking at developing new drugs and using computers to control and vary the amount of laser light entering the tumor.

Dr. McPhee is quick to stress that lasers are not the new cancer cure-all, but they do have an important role to play. Since his landmark operation in 1981, oncologists throughout the world have started to take an interest in laser surgery. He has helped teach hundreds of urologists throughout Canada and the United States.

"I've been part of the process," he says. "It has taken a lot of time, a lot of money, and a lot of effort. We are grateful to the Acklands people for enabling us to continue."

Alberta Cancer Foundation

Giving For Quality Cancer Care

In September, 1984, with an amendment to the Cancer Programs Act, the Legislative Assembly established the Alberta Cancer Foundation to handle charitable donations on behalf of the Alberta Cancer Board and its clinics — the Cross Cancer Institute in Edmonton, the Tom Baker Cancer Centre in Calgary, the Lethbridge Cancer Clinic, the Central Alberta Cancer Centre in Red Deer, and the Grande Prairie Cancer Clinic. Donations to the Foundation improve patients' quality of life, support educational and research programs and enhance diagnosis and treatment through the purchase of medical equipment.

Donations (cash, securities, trusts, real estate or deferred giving plans) are tax deductible subject to the prevailing regulations of Revenue Canada. The Foundation makes every attempt to use donations for the purpose directed by the donor. If no specific designation is requested the funds are placed in a general fund which is available for research and special needs. Applications for these funds are screened by special committees. Final approval is the responsibility of the Trustees of the Alberta Cancer Foundation.



Alberta Cancer Foundation
6th Floor, 9707-110 Street
Edmonton, Alberta T6K 2L9
(403) 482-9380

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Mr. Herb Imler

The following is just a sample of the projects that the Alberta Cancer Foundation funded in cancer treatment centres throughout the province, thanks to the generosity of our donors.

For Education:

The 10-week "Living with Cancer" public lecture series; travel funds for physicians and nurses to attend conferences and workshops; pamphlets and other educational materials for patient education; library books and periodicals.

For Research:

Fellowships, studentships, and support for research scientists and summer students; funding for a variety of research projects such as use of lasers; cancer serodiagnosis, tumor blood flow, cellular hypoxia, bone marrow transplantation; monoclonal antibodies and multi-drug resistance.

For Patient Comfort:

Funding for an outpatient residence; portable drug infusion pumps; sleep chairs; video equipment; artwork for patient areas; toys and games for the pediatric playroom; and musical equipment.

For Equipment:

Ultrasound equipment; a bonemarrow storage unit; a nitrogen refrigerator; an electronic thermometer; an intravenous pump; and a balance and PHS meter.

For Palliative Care:

Continuing support for the Palliative Care Chair at the University of Alberta.

In appreciation of the valuable service...

"I joined the Golden Gate Lions Club specifically because of its history of supporting the Alberta Cancer Foundation. The Club had previously donated a special bed which supports patients in extreme discomfort. Prior to that, it had donated a patient van which you see around the Cross. And prior to that it had donated portable infusion pumps. The bonemarrow freezer was simply another donation."

Martin Sawdon, president, Golden Gate Lions Club.

Martin's son, Marcus, was still receiving treatment for cancer when the Golden Gate Lions Club donated \$24,000 towards the purchase of a bonemarrow freezer. A unique co-operative venture between the University of Alberta Hospitals, the Cross Cancer Institute and the Canadian Red Cross Transfusion Service, the bonemarrow transplant pilot program provides hope for children with advanced neuroblastoma.

The intense radiation needed to treat the disease can damage bonemarrow, and a bonemarrow transplant may be the only way to restore the damaged marrow. The bonemarrow freezer, donated by the Golden Gate Lions Club, will store bonemarrow from patients in remission. It will be available for them at a later date if there is a recurrence.



Martin Sawdon



Dr. John Akabutu, head of the Northern Alberta Pediatric Oncology Program, is spearheading the bonemarrow transplant program.

Thank You, Donors

The Alberta Cancer Foundation gratefully acknowledges the following donors who gave over \$1,000 during 1987-88, and thanks to everyone who contributed to the Alberta Cancer Program. Your generosity allows us to do more for cancer patients in Alberta.

The Alberta Cancer Foundation operates a donor recognition program. For details, call the Foundation office at 482-9380 (collect from outside Edmonton).

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Alberta Cancer Board
Atco Ltd.
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In Memory

Memorial gifts are a special way to honor the memory of a loved one, friend or business associate. Donors derive some comfort from the knowledge that their contributions improve the care provided to other cancer patients and also support cancer research.

The Alberta Cancer Foundation gratefully acknowledges the many people who donated \$1,000 or more in memory of the following individuals.

Anne (Tammy) Allan
 Hugh Allen
 Joseph Bielish

"I went over for my yearly check-up, and I talked to two nurses there, and they told me about this new machine. I said, 'How many lives will it save?' It can save an awful lot of lives, so I said maybe I could buy one. They said to telephone Dr. Wiens."

Carmel Stong

Carmel Stong and his wife, Gladys, contacted Dr. Ernest Wiens, associate director of surgery with the Cross Cancer Institute, to learn more about videoscopy. The latest in video chip technology, the system offers a video image of the internal bowel. Images can be recorded on videotape, and individual frames developed as still pictures.

The Stongs negotiated with Ingram and Bell, the system's Canadian distributor, and purchased the \$75,000 system for the Cross Cancer Institute. The system will improve diagnosis and treatment. Dr. Wiens is also planning a study of the offspring of people who have had colorectal cancer. It is believed that these individuals are at higher risk than those with no such family history.



Gladys and Carmel Stong



Dr. Ernie Wiens

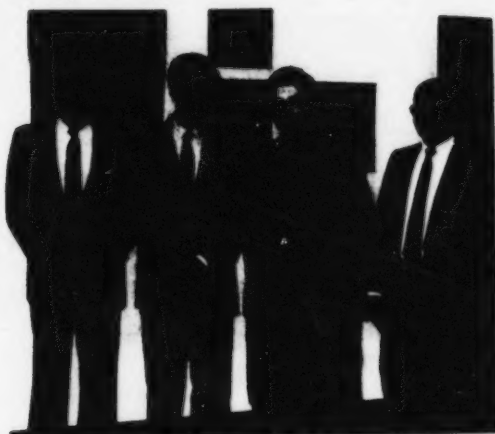


Cheryl Wares

The Tom Baker Cancer Centre has developed a video for new patients receiving radiation treatment. Funded by the Alberta Cancer Foundation and produced by the University of Calgary in co-operation with the Tom Baker's Patient Comfort Committee, the video introduces patients to the Department of Radiation Oncology, to staff roles and to treatment procedures.

"It is excellent," says Cheryl Wares, director of volunteer services for the Tom Baker Cancer Centre. A member of the team that developed the video, Cheryl explains that radiotherapy tends to be mystifying and little understood, and the video is designed to reduce uncertainty and ease the anxiety patients experience when informed that they will be receiving radiation.

Mr. T.E. (Ed) Poppitt, Dr. Tony Fields, Mrs. Jean Meltzer and son, Robert Meltzer, at the plaque unveiling ceremony.



Dr. Malcolm Paterson, an Alberta Heritage Foundation for Medical Research Scientist, is the director of the Cross Cancer Institute's Molecular Genetics and Carcinogenesis Research Unit.

"We all feel that Dr. Meltzer's work continues through this living memorial."

Mrs. D. Jean Meltzer.

Dr. Herbert Meltzer, a physician and thoracic surgeon, was a pioneer in the campaign against smoking. Following his death in February, 1985, family, friends, associates and patients established the Dr. Herbert Meltzer Memorial Fund to recognize his life's work.

Administered by the Alberta Cancer Foundation, the fund supports the Cross Cancer Institute's Molecular Genetics and Carcinogenesis Research Unit. In the lobby of the Institute, a plaque was recently unveiled, recognizing Dr. Meltzer and this support of cancer research.

William Blain
Laurette Bonifacio
Judy Boulding
Jodi Lea Carver
Clarice Chodak
Joseph G. Christianson
Enid Crockett
Thomas David Crozier
Alexandra Cuthill (Ina)
Southern
Dorothy Dale
Dr. Arthur A. D'Amato
Sonia Dobush
Mary Dolinsky
Gene Eby
Colin L. Edgett
Helen Fitzpatrick
Alexander Gorr
Lois Helen Griffith
Bryan Herbert
Shirley Edna Holtby
Mildred Hunter
Joan Intas
William Jamieson
Myrna Lorraine Janzen
Janet Katherine King
Ruth Carol Kinloch
Katherine Koopmans
Edward Leiman
James (Jim) LeLacheur
Barbara Doreen Lukey
Monica Lynch-Staunton
Cathlene McLaughlin
Daniel A. McLellan
Beverly Marshall
Donald W. Mayder
Jack Arnold Miller
Alexander C. Milroy
T.H. (Harry) Newton
Harry Nightingale
Alma Onofrychuk
Rudolph Pfeifer
Alan P. Rankin
Charles Seaman
Cyril Arthur Smith
William (Bill) Skoreyko
Thomas E. Stickney
Margo Stogryn
James William Vail
Arnold Vanderkley
Mary Van Kleek
Audrey Viney
Shelly Willis
Marion Louisa Yeo

Donations acknowledged in this report were received up to March 31, 1988. Donations received after that time will be reflected in the 1988-89 report.

Alberta Cancer Foundation
Statement of Operations and Fund Balances
for the Year Ended March 31, 1988

	Restricted Funds	Unrestricted Fund	Endowment Fund	Total 1987/88	Total 1986/87
Revenue:					
Donations	\$225,094	\$479,425	\$ —	\$ 704,519	\$ 549,702
Interest	2,123	372,141	—	374,264	359,483
	227,217	851,566	—	1,078,783	909,185
Expenditure:					
Charitable projects	179,907	—	—	179,907	128,216
Education and travel	—	284,547	—	284,547	160,553
Research projects	—	125,229	—	125,229	233,012
Equipment	—	102,392	—	102,392	13,078
Administration	—	93,465	—	93,465	73,991
Fund raising	54,142	—	—	54,142	—
Public awareness	—	41,894	—	41,894	31,212
	234,049	647,527	—	881,576	640,062
Surplus (deficit) for the year	(6,832)	204,039	—	197,207	269,123
Fund balances at beginning of year	200,781	853,304	—	1,054,085	784,962
Transfers between funds	—	(354,900)	354,900	—	—
Fund balances at end of year	\$193,949	\$702,443	\$354,900	\$1,251,292	\$1,054,085

Balance Sheet as at March 31, 1988

Assets	1987/88	1986/87
Cash	\$ 846,977	\$ 190,280
Short-term deposits	4,300,000	4,600,000
Accrued interest	4,254	—
Accounts receivable	6,367	—
Research project advances	5,636	15,588
	\$5,163,234	\$4,805,868

Liabilities and Fund Balances

Due to the Alberta Cancer Board	\$ 362,911	\$ 202,752
Restricted funds	193,949	200,781
Unrestricted fund	702,443	853,304
Endowment fund	354,900	—
Trust fund	3,549,031	3,549,031
	\$5,163,234	\$4,805,868

This information has been extracted from the audited financial statements of the Alberta Cancer Foundation.